

ño, A-la-hu-la-po; and the Ventureño, Mitc-ka-na-kan (Heizer 1955:115).

Sources

Source materials covering the first contacts between the Spanish explorers and the Chumash are abundant. These original accounts are available: Cabrillo (Wagner 1929), Vizcaíno (Wagner 1929), Fages (1937), Constansó (1911), Crespi (1927), Font (1930), Palóu (1926), Longinos Martínez (1961), Vancouver (Menzies 1924).

The Pinart and Henshaw Chumash vocabularies are published in the University of California Anthropological Records (Heizer 1952, 1955). Linguistic research on Chumash is surveyed in Beeler (1970) and Harrington

(1974). There is a chapter on the Chumash in Kroeber (1925). Landberg (1965) contains a valuable study of the Chumash subsistence patterns. There is much ethnological information in the culture element distribution lists of Harrington (1942). Rogers (1929) describes many archaeological sites along the channel. Drawings and photographs of paintings from all Chumash areas are available in Grant (1965). Father Engelhardt of Santa Barbara Mission wrote the histories of the five Chumash missions (1923, 1930, 1932, 1932a, 1933). They contain several of the early eighteenth-century Spanish *interrogatorios* with ethnographic information.

Extensive Chumash bibliographies are found in Landberg (1965), Grant (1965), E.N. Anderson (1964), and Heizer, Elsasser, and Clewlow (1970).

Eastern Coastal Chumash

CAMPBELL GRANT

The Coastal Chumash are divided into three linguistic-geographic entities: Barbareño, Ynezeño, and Ventureño.

The Barbareño occupied the narrow coastal plain from Point Conception to Punta Gorda in Ventura County (fig. 1). Directly behind the coastal shelf, the chaparral-covered Santa Ynez Mountains rise sharply to over 4,000 feet. The region enjoys a year-round mild climate and here the major concentrations of Chumash were found.

Chumash speaking the Ynezeño dialect occupied the middle and upper drainages of the Santa Ynez River between the Santa Ynez and San Rafael mountains. To the west, their territory was bounded by a north-south line roughly five miles east of La Purísima Mission. The climate is typical of the inland valleys, with hot summers and cold winters.

The Ventureño Chumash country was mainly mountainous with the exception of the Oxnard plain between Ventura and Point Mugu. The rancheria of Maliwu on the east side of Malibu Creek was the easternmost of the coastal Chumash villages (Kroeber 1925:pl. 48). The northern region includes the headwaters of the Ventura and Santa Clara rivers and is extremely rugged with several peaks rising to over 8,000 feet.

These three groups shared a common culture and the descriptions of the Barbareño can be applied to the other linguistic divisions except where differences are noted.

Barbareño

The first description of the Chumash was recorded by Juan Rodríguez Cabrillo in 1542: "They were dressed in skins and wore their hair very long and tied up with long strings interwoven with the hair, there being attached to the strings many gewgaws of flint, bone, and wood" (Bolton 1925:27). Font in 1775 noted other details:

The dress of the men is total nakedness. For adornment only they are in the habit of wearing around the waist a string or other gewgaw which covers nothing. . . . Some of them have the cartilage of the nose pierced, and all have the ears perforated with two large holes in which they wear little canes like two horns as thick as the little finger . . . in which they are accustomed to carry powder made of their wild tobacco . . . (1930:250-251).

Fages in 1775 described cold weather clothing: "The men go clothed with a large cloak made of the skins of cony, hare, fox, or sea otter; the garment reaches the waist, the captain only being allowed to wear it reaching to the ankle . . ." (1937:32). For additional warmth, the Chumash made blankets by twisting strips of bird and rabbit skin and weaving these strips together. The men often carried netting around their waists that served to carry small objects.

The women wore two knee-length skirts made of pieces of buckskin, one in front and one behind, the

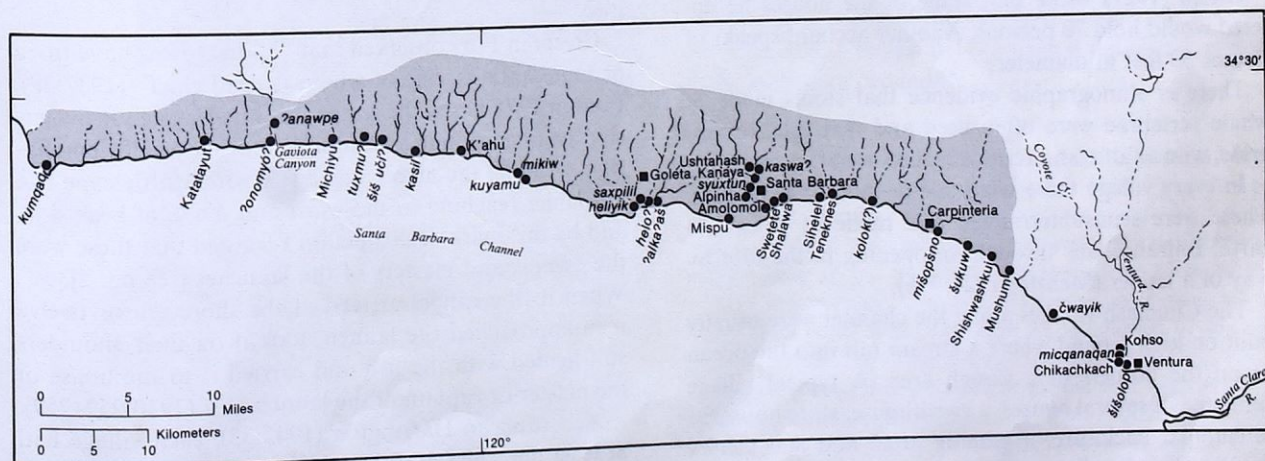


Fig. 1. Historic (after 1770) coastal settlements from Ventura to Point Conception. After Kroeber 1925; Brown 1967.

edges of which were fringed and ornamented with snail shells and cut pieces of abalone shell. The women wore their hair in bangs combed forward over the forehead, the rest worn loose down the back. Both sexes wore necklaces of shell, bone, and steatite and the women wore earrings of shell and stone. Body painting was done extensively by the Chumash, each rancheria having a distinctive pattern so that each group could be distinguished when they gathered for a dance or ceremonial function. Explorers noted that some of the men kept their beards plucked with clamshell tweezers but this was by no means universal.

All the early writers were impressed by the Chumash. Fages in 1775 noted that they were "of good disposition, affable, liberal, and friendly toward the Spaniard" (1937:47). Palou in 1778 found them "extremely intelligent and skillful" (1926, 3:232).

Structures and Settlement

The Chumash houses were much admired by the Spanish, and Longinos Martínez (1961:52) described their appearance in 1792:

These Indians live in communities and have a fixed domicile. They arrange their houses in groups. The houses are well constructed, round like an oven, spacious and fairly comfortable; light enters from a hole in the roof. Their beds are made on frames and they cover themselves with skins and shawls. The beds have divisions between them like the cabins of a ship, so that if many people sleep in one house, they do not see one another. In the middle of the floor they make a fire for cooking seeds, fish, and other foods, for they eat everything boiled or roasted.

The hemispherical houses were made by driving strong pliable poles into the ground and then arching them into the center where they were tied. Then a very thick covering was applied of interwoven grass. Much use was made of reed matting for mattresses, flooring, and for creating room divisions and doors.

Crespi (1927) wrote that some of the houses he entered would hold 70 persons. Another account speaks of houses 50 feet in diameter.

There is ethnographic evidence that stools made of whale vertebrae were often used and that tule, carrizo grass, wild alfalfa, and fern were also used for thatching.

In every village there were one or more sweathouses. These were semisubterranean and made of poles and earth. Entrance was through an opening in the roof by way of a ladder (Menziess 1924:325).

The Chumash villages along the channel were usually built on high ground where a stream ran into the ocean or on the borders of a slough area. A typical village consisted of several houses, a sweathouse, store houses, a ceremonial enclosure, a gaming area, and a cemetery usually placed well away from the living area.

When Cabrillo was visiting the Chumash in 1542, he recorded many of the coastal village names from the Ventura River to Point Conception. The explorers of the late eighteenth century describe 21 of these, of which only 17 were inhabited (Brown 1967:74).

Heizer (1955:194-195) lists 36 villages (from Chumash sources collected by H.W. Henshaw in 1884) between Malibu Canyon and Point Conception. Some of the most important with their present locations are: *kasil* (Refugio Beach), *mikiw* and *kuyamu* (Dos Pueblos), *helo?* (Mescaltilán Island) (Goleta Slough), *syuxtun* (Burton Mound, Santa Barbara), *mišopšno* (Carpinteria Creek), *šukuw* (Rincon Point). Crespi and the other journalists of the Gaspar de Portolá expedition gave descriptions and population estimates of the villages between Assumpta (Ventura) and Point Conception (Brown 1967:16-48):

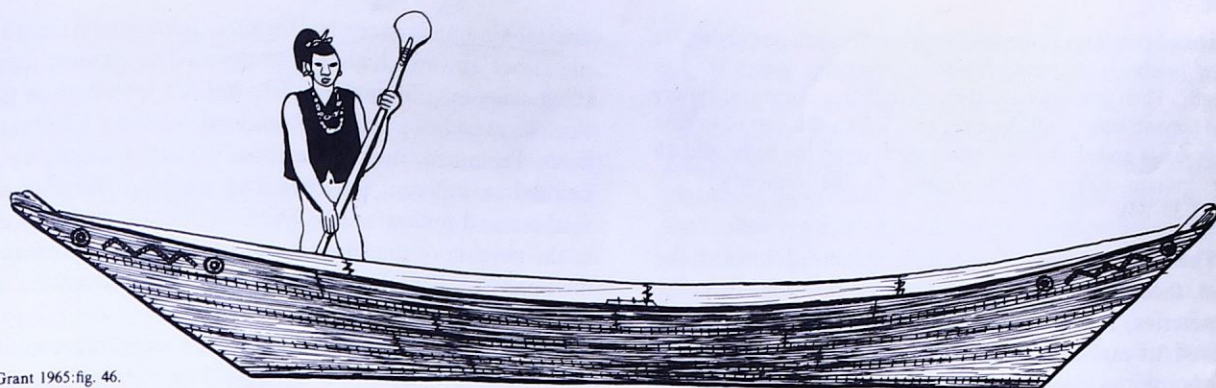
Village	Population	Houses	Canoes
<i>ʔonomyō?</i> (Gaviota) (Heizer 1955)	300	52	7
<i>tahiwaš</i>	400	80	15
<i>mikiw</i> and <i>kuyamu</i> (Dos Pueblos) (Heizer 1955)	1,100	120	10+
Goleta Slough Towns: <i>saxpitił</i> , <i>helo?</i> , Geliec, Alcas	2,000	100+	16+
<i>syuxtun</i> (Santa Barbara) (Heizer 1955)	600	40+	10
<i>mišopšno</i> (Carpinteria)	300	38	7
<i>šukuw</i> (Rincón Pt.)	300+	60	7

Social and Political Organization

The Chumash villages, known to the Spanish as *rancherías*, were composed of patrilineal descent groups. Harrington (1942:32) maintains that the Chumash had totemic clans but Henshaw (in Heizer 1955:149), who took ethnological notes in 1884, found no evidence of the clan idea.

Crespi in 1769 observed that "all the towns have three or four captains, one of whom is head chief" (1927:38). Font in 1775 noted the status conferred by canoe ownership (similar to northwestern California wealth emphasis): "Among the men I saw a few with a little cape like a doublet reaching to the waist and made of bear skin, and by this mark of distinction I learned that these were the owners and masters of the launches [see fig. 2]. . . . When it [the canoe] arrived at the shore ten or twelve men approached the launch, took it on their shoulders still loaded with the fish and carried it to the house of the master or captain of the launch . . ." (1930:252-259).

According to Harrington (1942:33), each village had at least one chief and the position was hereditary patrilineally but subject to village approval. Sometimes



Grant 1965:fig. 46.

Fig. 2. Planked canoe. Length 6.9 m. Based on eyewitness accounts by Pedro Font in 1775 and Archibald Menzies in 1793. Drawing by Campbell Grant.

daughters or sisters of deceased chiefs inherited the position. The account of the Cabrillo expedition recorded one example of this (Bolton 1925:29). Harrington (1942:33) wrote that a chief could rule over a village or group of villages. The power of such chiefs or captains was strictly limited. Besides their function as war leaders, they would preside at ceremonies and would receive gifts for their services. Each village had prescribed hunting and seed-gathering areas and only the chief could grant permission for other villages to gather or hunt on his village territory.

Life Cycle

Lieutenant Fages in 1775 noted the method of childbirth practiced by the women near the mission of San Luis Obispo. The woman would make a small hole in the ground wherever she happened to be when the labor pains began. The hole would then be warmed by fire and lined with straw. Here the woman would await the birth. After the birth, the nose of the child was flattened, and then the mother bathed herself in cold water (1937:49).

Longinos Martínez in 1792 recorded a birth practice that shocked the early Spanish: "In this region they have the notion that unless they have an abortion at their first pregnancy, or if the child does not die immediately, they will never conceive again. Hence they murder many babies with the efforts they make, the blows they give themselves, and the barbarous medicine they take in order to induce an abortion, so that some of the women die and others are badly injured" (1961:56).

There is little information in regard to the Chumash puberty rites but Harrington (1942:36-37) has some details. During the puberty period, girls were forbidden to eat meat or grease and they could not look into a burning fire. Boys were taken out at night and given a strong liquor made of pounded toloache (*Datura*) root mixed with water, to induce visions. An identical ceremony was practiced by the southern Yokuts.

With the exception of the chiefs and captains, the Chumash men had only one wife. A new bride was purchased from her parents with gifts such as some beads, an otter skin, or a blanket (Engelhardt 1930:35). Henshaw (in Heizer 1955:148) noted that a girl could marry in her own village or in another. Adultery was punished by whipping. Polygamy was only for the favored few (Fages 1937:33).

Longinos Martínez in 1792 described a typical cemetery: "Above each grave they erect a board, some three varas long and half a vara wide, painted in black and white squares, and a pole three or four times as tall as the board, painted in the same colors, on top of which they usually place trophies; if the dead man was a fisherman, hooks and lines; if a hunter, bows and arrows, etc. They also lay lengthwise over the grave the rib of a whale, bent like a bow. The cemetery is enclosed by a high stockade" (1961:62). In his excavation of Burton Mound at Santa Barbara, Harrington (1928:134) noted that slabs of whalebone made of crosscut rib sections and whale scapulae had been used to line some graves. The whalebone markers mentioned by Longinos Martínez were still evident in the second half of the nineteenth century and were an aid to the curio looters who stripped so many of the Chumash cemeteries.

Lieutenant Fages in 1775 gave a detailed account of the mourning ceremony:

When any Indian dies, they carry the body to the adulatory, or place near the village dedicated to their idols. There they celebrate the mortuary ceremony, and watch all the following night, some of them gathered about a huge fire until daybreak; then come all the rest (men and women) and four of them begin the ceremony in this wise. One Indian smoking tobacco in a large stone pipe, goes first; he is followed by the other three, all passing thrice around the body; but each time he passes the head, his companions lift the skin with which it is covered, that the priest may blow upon it three mouthfuls of smoke. On arriving at the feet, they all four together stop to sing I know not what manner of laudation. Then come the

near and remote relatives of the deceased, each one giving the chief celebrant a string of beads, something over a span in length. Then immediately there is raised a sorrowful outcry and lamentation by all the mourners. When this sort of solemn response is ended, the four ministers take up the body, and all the Indians follow them singing to the cemetery . . . (1937:33-34).

The bodies were placed with the head toward the west, face down, and tied in a flexed position. In many cemeteries, reburial was practiced, with bodies being moved to make room for new ones. Offerings such as bowls, pestles, beads, weapons, and charmstones were included. In many graves there was evidence that bowls and mortars had been deliberately broken at the time of burial.

Small canoes of stone, bone, or wood have been found with infant burials. A Chumash informant said that they were to help conduct the small soul into the other world.

Social Culture

The large number of smoking pipes found in burials suggests a general addiction to the strong native tobacco (*Nicotiana attenuata* and *N. bigelovii*). The typical Chumash pipe is a tapering tube of steatite, usually fitted with a bird-bone mouthpiece. The Chumash used tobacco in another way, as "a confection of wild tobacco and lime, which when chewed, strengthens them as they say; but if they go to excess, it intoxicates them . . ." (Engelhardt 1932:18).

The early Spanish noted that the Chumash were not inclined to anger and cruelty and that any form of punishment was rare. For theft, the culprit was brought before the chief and made to return the goods or something of equal value. Disputes between village men were sometimes settled by the disputants facing one another and exchanging blows with their sweat scrapers until someone drew blood.

Only a few instances of taboos have been recorded (Engelhardt 1930:34):

The pagans, especially the old men cling to many of their superstitions. For instance, a fisherman will not eat of the fish or of the venison, rabbits, hares, etc. which he caught, believing he will in that case catch no more. In order to win at a play of chance, he must fast for some days; and if he loses, he imagines that the winner fasted more. The husband may not touch his wife until the child can stand alone on its feet, otherwise he shall have no more children. When the wife is delivered of a child, the husband must abstain from meat for some time, lest the child die.

Nearly all the early writers commented on the presence of transvestites among the Chumash, remarking that there were two or three such men in each village, who "are called *joyas*, and are held in great esteem" (Fages 1937:33).

512 The ease of life along the channel, afforded by the abundant food supply and the benign climate, gave the

coastal Chumash more leisure time than many California tribes and much time was devoted to games, gambling, singing, and dancing. In 1769 the members of the Portolá expedition were entertained by their Chumash hosts. Prominent men came from various villages, each painted in different patterns and carrying bunches of feathers and hollow reeds. These men sang and danced to the rhythm of the shaken reeds for several hours and the Spaniards found the effect pleasing but interminable (Crespi 1927:168).

The Chumash had no drums. The musical instruments were flutes of elder wood or bone (blown from the end over the edge), the musical bow, whistles of cane and bone, the bull-roarer, and rattles of split sticks, sea shells, turtle shells, and bunches of deer hoofs.

A flat area for dancing and ceremonials was an important part of each village and Fages in 1775 described a dance at such a spot: "The women go to them well painted, and dressed as has been described [with antelope hide skirts], carrying in both hands bundles of feathers of various colors. The men go entirely naked, but very much painted. Only two pairs from each sex are chosen to perform the dance, and two musicians, who play their flutes. Nearly all the others who are present increase the noise with their rattles . . . at the same time singing, very displeasing to us" (1937:36).

The Chumash played all the games familiar to the southern California Indians, including shinny, with a small ball of hard wood. After the shinny game, the entire team retired to the sweat lodge (Robinson 1846:94).

They also played a variation of the hoop and pole game. A small hoop made of tied rushes or bark was rolled along the ground, and the contestants tried to throw a long pole through the rolling hoop.

The Chumash were great gamblers and the men were constantly wagering shell money, which they kept strung around their topknots. A favorite was the ancient game of hiding a stick behind the back and having the opponent guess which hand held the stick. A gambling game played by women was the dice game. The dice were snail or walnut shells filled with asphaltum. There is no Chumash account of the playing of this game, but the dice are identical with those used by the Yokuts (Latta 1949:130-131) and the Chemehuevi (Kroeber 1925:598). The Chumash also had gaming sticks made of split wood seven inches long and pointed on one end, which were probably cast like the walnut dice to see whether the flat side fell down or up.

Warfare

The early Spanish invariably found the Chumash gentle and friendly, a quality that led to their undoing as they entered the fatal mission system without a struggle. Only once, in the abortive revolt of 1824, did they take up arms against their Mexican masters.

There is evidence that Indians from the mountains and the interior valleys made forays against the coastal Chumash. On August 18, 1769, the Portolá expedition traveling between present-day Carpinteria and Santa Barbara saw two burned villages, Paredon (*kolok* [?]) and Montecito (Saluhaj). The Indians told the Spaniards that the mountain Indians had attacked these villages three months earlier and had killed all the people. Another burned settlement was seen later farther to the west (Crespi 1927:164).

At the Santa Barbara Museum of Natural History, there are a number of skulls and other bones with flint arrowheads imbedded in them that have been excavated from channel cemeteries. It is impossible to say who the raiding Indians were, though the inference is that they were non-Chumash and might have been Takic speakers or Yuman Mohaves from the Colorado River. It is known that the latter made periodic visits to the coast (Señán 1962:126).

Among the Chumash, the cause for war could be the infringement of a village hunting and gathering preserve, the refusal of a chief to accept an invitation to a feast or dance, or the avenging of witchcraft.

Warfare was arranged formally as opposed to the surprise raid. The aggrieved group would send a messenger to arrange a meeting at a certain place. Here both parties met, throwing feathers in the air and shouting their battle cries. An Indian from one side would then step forward and fire a series of arrows at the other side. Then one from the other side shot off an equal number.

Religion and Shamanism

Almost nothing is known of the religion of the Chumash. The diaries of the explorers and the *interrogatorios* of the missionaries afford a few glimpses. In 1542 Cabrillo (in Bolton 1925:30) wrote: "They have in their pueblos large plazas and have an enclosure like a fence; and around the enclosure they have many blocks of stone set in the ground, and projecting three palms above it. Within the enclosures they have many timbers set up like thick masts. On these poles they have many paintings, and we thought that they worshipped them, because when they dance, they go dancing around in the enclosure." Longinos Martínez in 1792 noted that at all the rancherías, the Chumash would plant a stake about three feet high on the highest and most open area and fasten a bunch of feathers to the top of the stake. Longinos Martínez thought that this primitive shrine was worshiped by the people as a symbol of the unseen power that provided them with seeds, fish, and all needed things. No amount of ridicule by the Spanish would sway them from this belief (1961:53).

Father Olbés of the Santa Barbara mission, in his report of 1813, recorded the name of the Chumash deity as Sup (i.e., *šup*). They had no figure or idol to represent this deity but would honor him and show their gratitude

for his favor by strewing seeds and feathers in various areas. These offerings were a token of acknowledgment to *šup* for his bounty (Engelhardt 1923:96).

The deity *šup* is certainly identical with Achup or Chupu worshiped by the Purísima Chumash. In 1801 a messianic movement occurred at the Santa Barbara mission following a severe epidemic of pneumonia and pleurisy that killed many Indians. An Indian woman neophyte had a vision in which Chupu appeared to warn her that the pagan Indians would all die if they allowed themselves to be baptized and that the Christian Indians would also die if they did not pay tribute to Chupu. The movement was endorsed by all the Channel Chumash settlements and the Mission Indians. A neophyte revealed the plans of the movement to the Spanish and as the epidemic lessened, the movement died (Heizer 1941a; Stickel and Cooper 1969:13).

The worship of Chupu persisted for some time; in the 1820s the neophytes often built little shrines of sticks and brush on which they hung bits of cloth and various objects. On the inside of the shrine, they would place tobacco and other offerings as gifts for the unseen spirits. The missionaries severely punished any Chumash caught practicing such a reversion to their pre-Christian beliefs (Woodward 1934:120-121).

Kroeber (1925:567-568) places the origin of the Chingichngich religion with the Gabrielino, possibly on Santa Catalina Island and spreading east, south, and possibly north into Chumash territory. This native cult based on the use of toloache has been described in detail among the Juaneño Indians by Father Boscana (Harrington 1934). One of the Chingichngich ceremonies centered about the panes, a giant bird described as resembling the vulture only larger (the California condor). Today the Chumash territory is the last haunt of the condor (Barbareño *wit*, Ynezeño *nalmiyi*?) and Ventureño rock paintings often show men in bird costumes that might represent the condor. In the coastal Chumash area, ritualistic figurines of steatite have been found, often representing killer whales. According to Kroeber (1925:938), these and also rock paintings may have been used in connection with the toloache cult.

As in other parts of California, the chief function of the shaman was the curing of disease. In the Chumash area, according to Harrington (1942:39-42), the shaman (fig. 3) was invariably a man, who employed singing, herbs, and a medicine tube for sucking out the foreign object presumed to be causing the sickness. His power was derived from a guardian spirit that appeared to him during a trance or vision. There were rattlesnake shamans, who had the ability of handling rattlesnakes; weather shamans, who could control the weather; and grizzly bear shamans, who had the power to turn themselves into bears and kill enemies. The contents of an archeological example of a shaman's fetish bundle are listed by Olson (1930:19): "painted fabric or basketry

containing two perforated stones, five awl or spatula-like batons with quartz crystals set into the open ends, three loose quartz crystals, two steatite pipes, a small incised steatite dish, and a number of beads, pendants, curious shells, etc."

The most interesting objects employed by the Chumash shamans were the charmstones. Though widely known among the other California tribes, the Chumash type was distinctly cigar-shaped and averaged about six inches in length. The material was a hard, close-grained rock and the pieces were carefully worked and polished. In the Santa Barbara area, they were considered very powerful sorcery stones and the shamans would arrange them in a circle of 20, then shove them violently together and sprinkle water over them (Yates 1889).

Rogers (1929:410) occasionally found the beaks of swordfish near the heads of male skeletons. At a late historic site, he found such a beak undisturbed and protruding above and forward from the face of the skeleton. Above and below the skull lay a thick sheet of overlapping triangular abalone shell ornaments pierced as though for attachment to some material. Rogers postulated that the man had been dressed to represent the swordfish. There were traditions that the Chumash revered this great fish because it drove ashore the whales so important for food and cultural material (Mohr and Sample 1955). Such an occurrence has not been recorded in historic times and it would appear that the stranding of whales had no connection with swordfish.

Technology

The early Spanish explorers were impressed by the Chumash craftsmanship. When the Juan Bautista de Anza expedition passed through the channel villages in 1775, Font noted the fine basketry, many articles such as trays and boxes skillfully made of wood, and the finely finished objects in stone. Above all he was astonished by the planked canoes, so skillfully made with the most primitive of tools (Font 1930:261).

•STONE The finest objects made by the Chumash were of steatite. Its resistance to heat made it ideal for cooking receptacles. The pre-Spanish Chumash made no pottery and all cooking was done in heavy steatite ollas and on comals (flat cooking stones, like skillets) (fig. 4). Small, highly finished bowls to hold beads and prized possessions were made of the dark-colored steatite and often decorated on the rim with tiny flat shell beads inlaid on asphaltum. Other objects made of polished steatite are carved beads, medicine tubes, smoking pipes, effigies of whales, and a very curious artifact shaped like a small hay-baling hook and sometimes called a "pelican stone." Charmstones are sometimes made of steatite, though more often they are of stone not found in the coastal area, such as alabaster, schist, granite, and other rocks capable of taking a fine finish.



Musée de l'Homme, Paris.

Fig. 3. A man wearing the ceremonial costume of a shaman. The dance skirt has strings of milkweed (*Asclepias*) fiber with eagle down twisted in and feathers attached to the lower ends. The entire costume is identical to that of a Yokuts shaman (in Latta 1949:202). Photograph by Léon de Cessac, 1878.



Dept. of Anthr., Smithsonian: 62722.

Fig. 4. Steatite slab for baking. A hooked stick inserted in the hole served as a handle to remove the hot stone from the fire. Length 32.0 cm, collected 1883.

The major steatite quarries were on Santa Catalina Island, territory of the Gabrielino (Schumacher 1878). The Chumash traveled to the island by canoe to obtain the steatite but whether they made the ollas at the quarries or traded for the roughed-out olla blanks from the Gabrielino is not known. There are some deposits of the fine-grained steatite in inland Santa Barbara County, and nodular pieces of unworked steatite have been found at a Chumash village site in the San Rafael Range.

Sandstone was much used by the Chumash artisans in the manufacture of large flaring storage bowls with up to eight quarts capacity. Mortars and pestles are abundant in burials but the most interesting type of mortar is the basket mortar where a bottomless funnel-shaped basket is attached to the upper surface of a flat boulder with asphaltum.

Asphaltum was an indispensable material to the Chumash. It occurs in natural seeps all along the channel. With it, they attached shell inlays to stone, caulked their canoes, sealed their water baskets, and fastened arrow and spear points to the shafts (Heizer 1940:74).

The Chumash made very fine projectile points of chert and occasionally of obsidian, obtained by trade with tribes to the east. The points are typically triangular with a notched base or leaf-shaped with a rounded base. The Chumash did not have the pump drill but used a slender sharp flint set in the end of a wooden shaft that was rotated between the palms.

A characteristic Chumash artifact, often made of sandstone, is the perforated or "doughnut" stone. These stones average about four inches in diameter with the drilled hole about an inch in diameter. Its principal use was as a weight for digging sticks (Heizer 1955:152). The perforated stones vary greatly in size (from one ounce to seven pounds) and undoubtedly served a variety of purposes (Heizer 1971:64-67).

•WOOD The outstanding technological achievement of the Chumash woodworkers was the *tomol*, or planked canoe (fig. 2). The Spanish were unanimous in praising these craft:

They are very carefully made of several planks which they work with no other tools than their shells and flints. They join them at the seams by sewing with very strong thread which they have, and fit the joints with pitch. . . . Some of the launches are decorated with little shells and all are painted red with hematite. In shape they are like a little boat, but without ribs, ending in two points . . . In the middle there is a somewhat elevated plank laid across from side to side to serve as a seat and to preserve the convexity of the frame. Each launch is composed of some twenty long and narrow pieces. I measured one and found it to be thirty six palms long and somewhat more than three palms high. In each launch . . . ordinarily not more than two Indians ride one in each end. They carry some poles about two varas long which end in blades, these being the oars . . . (Font 1930:252-253).

The canoes varied from about 12 feet to over 30 feet in length and were remarkably light (two men could easily carry an average-sized one). In these craft, the Chumash could quickly reach their fishing grounds and make long voyages, not only to the Santa Barbara Channel Islands but to Santa Catalina Island and even as far as remote San Nicolás, 65 miles from the mainland. For splitting the wood into planks, wedges of whalebone were employed (Heizer 1938; E. Robinson 1942).

The explorers noted wooden plates and bowls (fig. 5) made from the roots of oak and alder and boxes made of small planks sewed together. Costansó in 1769 described some fine bowls: "wooden plantes and bowls of different forms and sizes made from one piece, so [skillfully] that not even those turned out on a lathe could be more successful" (Costansó 1911:193). Seeds were generally ground in wooden mortars by the Coastal Chumash but only the stone mortars have survived (Menzies 1924:325).

The Chumash men carried in their hair small flint knives (fig. 6) fastened to a handle of straight polished wood inlaid with shell. Two types of arrows have been



Musée de l'Homme, Paris: top, MH 82-30-84; bottom, MH 82-30-85.

Fig. 5. Carved oak bowls. Top specimen has shell inlay along rim, maximum diameter 15 cm; bottom has 22 cm rim diameter.

Collected in the Santa Ynez Valley in 1878 by Léon de Cessac.



Dept. of Anthr., Smithsonian: 20502.

Fig. 6. Flint knife set in wooden handle. The handle was at one time probably decorated with shell inlaid in asphaltum. Length 15.7 cm, collected 1876.

recovered from dry caves in the Chumash territory. One was the type made of a single piece of wood sharpened at one end. The other is the typical southern California two-piece arrow with the mainshaft of carrizo grass (*Phragmites communis*) and the foreshaft of hard wood, to which is attached the chert point with asphaltum and sinew.

• **BASKETRY** Chumash basketry was outstanding in decoration and workmanship and examples were avidly collected by the early Spanish explorers and settlers (Dawson and Deetz 1965; Kroeber 1905c). The Chumash utilized many types of basketry in their everyday life. Water was stored and carried in basketry bottles (see "Interior Chumash," fig. 1, this vol.) ingeniously waterproofed on the inside. According to a Ventura Chumash (Craig 1966:210), some pulverized asphaltum was placed in the finished container and a number of round stones about two inches in diameter were heated and dropped into the neck of the bottle. These were then rolled about, melting the tar and forcing it into the weave of the basketry.

The Chumash weavers used both the coiling and twining techniques. In the coiled ware, there were basin-shaped baskets for food preparation, large burden baskets, olla-shaped baskets for storing seeds, and nearly flat circular trays for winnowing and parching (fig. 7). The finest work and decoration were reserved for trinket baskets for small possessions (Dawson and Deetz 1965).

The twining method was employed for water bottles, seed beaters, and coarsely woven basin-shaped baskets, probably strainers. In addition there were basketry cra-

dles, hoppers for grinding mortars, bait baskets for fishing, and large twined tule mats for floor covering and wrapping.

• **SHELL AND BONE** The Chumash made much use of shells, particularly the abalone (*Haliotis*) abundant along the channel. The inner mother-of-pearl surface of the abalone was cut into spangles of various sizes and shapes and attached to garments. It was used lavishly as inlay material on stone, bone, and wood. The circular fishhooks were often fashioned from abalone shell. The entire shell was commonly used as an eating dish after the row of siphon holes was plugged with asphaltum.

The keyhole limpet (*Megathura*) was a favorite material for hair ornaments and the univalve (*Olivella*) was universally used for bead material. The giant Pismo clam (*Tivela stultorum*) was ground into beads and disks for money. The money disks were strung and traded by length, standard length being the circumference of palm and outstretched fingers. Slender drilled tubes of clam-shell up to three and one-half inches long were highly prized as money and were sometimes worn by both sexes in the pierced nasal septum.

Whalebone was utilized for wedges, abalone pries, burial markers, and grave liners (Harrington 1928:134). Sweat scrapers were made of deer and bear bones as well as swordfish bills. Long bone beads were used as spacers in many necklaces. Flutes and whistles were made of bone, the whistles usually of deer tibia (Elsasser and Heizer 1963:59). Needles, awls, fishing hook barbs, and harpoon heads were fashioned from bone.

• **CORDAGE** The Chumash made excellent rope and twine. The bulk of their cordage was made from yucca. For a more pliable string, Indian hemp (*Apocynum*), nettle (*Urtica*), or milkweed (*Asclepias*) was employed. The heavier cordage was used for things such as canoe anchor ropes or harpoon lines. The lighter twine served for fish nets, carrying nets, bowstrings, and all manner of tying and securing.

Subsistence

The most important single food source was the acorn, mainly from the California live oak (*Quercus agrifolia*). It was gathered in the fall and stored for year-round use. The shelled nuts were ground into meal and cooked as mush or in some form of cake.

Pine nuts, especially of the piñon pine (*Pinus monophylla*), were a favorite food. Islay, the wild cherry (*Prunus ilicifolia*), was bruised in a mortar and boiled. The cattail *Typha* gave seeds and flour from the roots for making pinole, a gruel or paste. Berries, mushrooms, and cress were gathered in season to vary the diet.

The Chumash prized the amole, or soap plant (*Chlorogalum* sp.). The bulb was roasted and eaten, the green bulb furnished lather for washing, the dry husks could be frayed and bound into brushes, and the crushed plant was used as a fish poison. Berries of the California laurel



left, Southwest Mus., Los Angeles: 811-G-1709; right, Field Mus., Chicago: 103131.

Fig. 7. Coiled baskets. left, Necked "treasure basket" collected before 1937; right, parching tray, collected before 1920, diameter 34.9 cm.

(*Umbellularia californica*) were roasted. The chia sage (*Salvia columbariae*) produced a tiny oily seed that was made into flour or a very nutritious form of pinole.

The Chumash gathered many types of seeds with a basketry seed beater, a fan-shaped implement with which grass and weed seeds were knocked off into a wide-mouthed basket.

For hunting, the basic weapon was the bow and arrow (the self-bow or sinew-backed bow), and with it the Chumash killed animals such as the California mule deer, coyote, and fox. Smaller animals were usually taken with snares and deadfalls. Flat, curved throwing sticks were used to kill rabbits during communal rabbit drives. All the game birds were regularly harvested, particularly migratory ducks and geese on the lagoons. From canoes, the hunters pursued large marine mammals—seals, sea otters, and porpoises—and killed them with harpoons. Bowers (1878:319) quotes a Santa Rosa Indian informant who stated that the islanders killed whales and ate the blubber raw. He was probably referring to porpoises or pilot whales, as the California gray whale (*Eschrichtius gibbosus*), which was abundant in the channel during the winter migration, grew to 45 feet in length and was too dangerous an animal to be captured by the Chumash in their light canoes. It would appear likely that the Indians utilized the dead and ailing whales that were occasionally stranded along the channel. Though Chumash tradition credits the swordfish with the ability to drive the whale ashore (Rogers 1929:410), there are numerous reports of packs of killer whales (*Orcinus orca*) attacking baleen whales, tearing at their lips and tongues, and often killing them (Scammon 1874:90; R.C. Andrews 1916:198-200). The benefactor of the Chumash in this instance was probably the killer. Steatite effigies of these voracious toothed whales (see "Island Chumash," fig. 2, this vol.) have been recovered from channel and island burials.

Mollusks were an important food source and, except for the seasonally toxic mussel, were eaten the year round. The enormous shell middens along the channel are made up of shells such as the California mussel (*Mytilus*), the horse clam (*Tresus*), the gooseneck barnacle (*Mitella*), and the jackknife clam (*Tagelus californianus*). The very important mollusks, the Pismo clam (*Tivela stultorum*) and the various abalones (*Haliotis* spp.), though a major food source, seldom appear in middens as their shells were utilized as material for beads and ornaments.

The Santa Barbara Channel provided an inexhaustible supply of fish such as the shark, bonito, yellowtail, black sea bass, rockfish, halibut, anchovy, and barracuda. Larger fish were harpooned; the smaller ones were caught in seines and dip nets of twisted vegetable fiber or with hook and line. Trout were taken by poisoning still water with the soap plant (*Chloragalum*) or the turkey mullein (*Eremocarpus setigerus*).

Intertribal Relations

The Chumash shared many cultural traits with the people in adjoining territories. To the north were the Hokan-speaking Salinans. To the northeast were the Yokuts of the Penutian linguistic group. To the southeast were the Takic-speaking Gabrielino and Fernandeño. Of their neighbors, the Gabrielino were culturally the most similar, sharing a maritime environment and economy.

Trade was active between the Chumash and nearby tribes. The mainland Chumash supplied the Salinans with steatite, wooden vessels, and beads (Davis 1961:29). They traded white pigment, shell beads, Pismo clam, abalone, olivella, limpet and cowrie shells, and dried sea urchin and starfish to the Yokuts for black pigment, antelope and elk skins, obsidian, salt, steatite, beads, seeds, and herbs. They supplied the Tubatulabal with asphaltum, shell ornaments, steatite, and fish in exchange for piñon nuts. They traded seeds, acorns, and bows and arrows with the Island Chumash for chipped implements, fish-bone beads, baskets, and basaltic rock for digging-stick weights. The Kitanemuk obtained wooden and shell inlaid vessels from the Chumash. From the quarries of the Gabrielino on Santa Catalina Island the Chumash obtained the all-important steatite vessels, but there is no record of what they gave in return.

Rock Art

The rock paintings (see "Interior Chumash," figs. 3, 4, 5, this vol.) of the Chumash Indians are the most interesting and spectacular in the United States. The paintings almost invariably are abstract, but when life forms are represented they are highly stylized and imaginative. A feature of the more elaborate paintings is the multiple outlining of figures, especially the concentric circle and "cogged wheel" motif. A well-preserved example of this style was illustrated by Mallery (1886:pls. 1, 2). This site is the well-known Painted Cave of San Marcos Pass, a few miles from Santa Barbara. Most of the 12 known Barbareño painted sites are within a few miles of the Painted Cave along the summit of the Santa Ynez Range. Without exception they are near water, and bed-rock mortars are often found in the immediate vicinity. As to their meaning, Kroeber (1925:938) suggests that the coincidence of southern California rock art with the area of the toloache religion points to a possible association.

In the Luiseno area, abstract paintings were made by girls during puberty rites (J.H. Steward 1929:227), and it can be presumed that a similar motivation was connected with some of the Chumash paintings. It can be theorized, based on known shamanistic practices in other parts of the world, that most of the Chumash pictures were ceremonial and made by or under the direction of shamans.

The idea that the painted sites represented shrines or sacred spots is suggested by their location, which almost invariably is a remote area in the coastal range high above the population centers. The extraordinarily fanciful character of many of the paintings suggests that they were painted by persons under the influence of the powerful hallucinogen, toloache (Grant 1965:63-64).

Ynezeño

The Chumash under the jurisdiction of Mission Santa Ynez (Ynezeño) and Mission San Buenaventura (Ventureño), especially those living in the inland mountains, are far less well documented than the Barbareño. Their material culture was quite similar to that of the Channel Chumash, but the people in the interior river valleys lacked an ocean-oriented economy and placed more emphasis on hunting and gathering.

In 1798 Father Esteván Tapis and Capt. Felipe de Goyocoechea crossed the Sierra Mescalitlán (Santa Ynez Mountains) from Santa Barbara to locate a new mission site roughly halfway between La Purísima and Santa Barbara. Striking the river, they passed through two rancherias, Tegueps (*tewepš*) and Calabuasa, before arriving at the village of Alajuapa, where the mission was eventually built. During a survey to check on the number of Indians in the area, Tapis recorded 14 rancherias, all within 7 to 36 miles of the proposed mission site. The largest settlement had 50 houses and the smallest eight. Tapis estimated that the average number of Indians in a house was four and arrived at a figure of 1,008 for the Santa Ynez settlements (Engelhardt 1932:3-4).

No descriptions are available on the size of the houses that Tapis saw but they must have been much smaller than those on the channel, where Cook and Heizer (1965:21) estimated the average number of people in each house at 15. In 1769 the Portolá expedition diarists estimated the populations and counted the houses in the villages between Rincón Point and Point Conception. The average number of people in a house was eight (Brown 1967).

Before the establishment of Mission Santa Ynez in 1804, Tapis requested troops to safeguard the mission as there was trouble with some of the interior Indians. He noted that the Chumash rancherias nearest the Tulares (Yokuts territory), in the southern San Joaquin valley, were of a bad disposition; and Indians from them would often murder people from other villages suspected of witchcraft. In 1801 a group of these Indians set fire to a small rancheria near Tegueps on the Santa Ynez River and killed five persons. The victims were related to the chief of *kuyamu* on the coast, who was attributed responsibility for a severe epidemic that had taken many lives (Engelhardt 1932:7).

By the end of 1804 only 112 Indians had been baptized and it had become apparent that there were not enough local gentiles, or unconverted Indians, to support a large mission establishment. As a result, converts were sent to the new mission from the two nearby missions. In 1806 there were 570 Chumash at Santa Ynez Mission, 132 from Santa Barbara and 145 from La Purísima. The baptismal registers show that eventually the mission had converts from many coastal and mainland rancherias and settlements on *limuw* (Santa Cruz Island). In 1831 the Chumash population at Mission Santa Ynez was 436 (A. Forbes 1839).

There are eight known rock art sites in the Santa Ynez River drainage. Several are along the crest of the Santa Ynez Range near San Marcos Pass and near permanent springs. The others are on small streams flowing into the river. The recency of some Chumash paintings is demonstrated by several examples from this region. A site in the Nojoqui Valley was illustrated by Mallery (1893:63-67) with a number of the design motifs. Eighty years later, in 1973, the panel is barely recognizable due to the natural erosion of the soft sandstone.

Another example of late prehistoric or historic rock art was recovered at the site of the Chumash rancheria Saca on Alamo Pintada Creek. A rock slab with crosses and centipede motifs was found in a layer of mission-period material (Deetz 1964). Also at this site was a large serpentine boulder with pit-and-groove markings, a type of petroglyph rare in Chumash country.

Ventureño

On October 12, 1542, Cabrillo landed near the Indian rancheria of *šišolop* (present site of the city of Ventura) and the Spaniards saw their first Chumash. He took formal possession of the country, noting that "there came to the ships many very good canoes, each of which held twelve or thirteen Indians . . . the interior of the country is a very fine valley and they made signs that there was . . . abundant food" (Bolton 1925:25). Cabrillo named the settlement Pueblo de las Canoas. The Spanish were entertained with a feast of bonito by the hospitable Chumash, who traded many objects for the glass beads of the explorers.

The 1769 Portolá expedition traveling north to Monterey from San Diego first encountered the Ventureño Chumash at the rancheria of Santa Clara (near present Fillmore). Their houses resembled the rectangular, mat-covered houses of the adjacent Takic speakers but they had many artifacts of types the Spanish later described from the coast. Portolá, following the Santa Clara River to the coast, arrived at *šišolop* and recognized it as Cabrillo's Pueblo de las Canoas, described two centuries earlier. He named it Assumpta. The explorers all commented favorably on the appearance of *šišolop* as the largest and best-laid-out rancheria they had seen since

leaving San Diego, with 30 large houses and 15 canoes. In 1782 Father Junipero Serra established the second Chumash mission, San Buenaventura, at *šišolop*.

Away from the ocean, most of the settlements in the Ventura region were not large. On their return trip south in 1770, the Portolá expedition passed through the Conejo Valley east of *šišolop* and Costansó noted four small villages in the area. At one of these the Spanish were entertained and were given roasted mescal (yucca) to eat. The villagers appeared "very poor and thin" (Costansó 1911:314-317). The Ventureño region was well populated, especially along the Santa Clara and Ventura rivers and Calleguas Creek. Kroeber (1925:pl. 48) shows 28 villages; and King (1969:map 1) locates 41 settlements and estimates the total Ventureño population in 1770 at between 2,500 and 4,200. Many of the Chumash rancheria names persist in the Ventura area as names of modern towns or localities: *šatikuy*(?) (Saticoy), Matilja (Matilija), *ṽahay* (?) (Ojai), *sekspe* (?) (Sespe), *šohmus*(?) (Somis), *šimiya*(?) (Simi), *muwu*(?) (Mugu), and *kayewaš*(?) (Calleguas).

Archeological investigations in the Ventura area have demonstrated that the high material culture of the coastal Chumash diminished in direct ratio to its distance from the seashore. The inland excavations have mainly yielded generalized Chumash artifacts technically inferior to those produced on the coast.

In the mountainous inland regions, the most interesting Chumash remains are the rock paintings that generally occur in wide-eroded sandstone shelters away from permanent settlements. A few such sites in the Santa Monica Mountains have paintings on rough conglomerate surfaces but the finest work is on sandstone. The rock art of the area is confined to the Santa Monica Mountains, the Simi Hills, and the mountainous headwaters of the Sespe and Piru creeks. The subject matter is quite unlike the elaborate polychrome abstract patterns and geometric motifs in other Chumash areas and is mainly concerned with fantastic anthropomorphic and zoomorphic creatures. A characteristic of this region is the small scale of most of the figures. Many of the Mutau Flat site motifs are only a few inches high; and at sites in the Sespe drainage (Grant 1965:pls. 18, 24) and near Boney Mountain in the Santa Monica Range, there are similar tiny figures painted with great care (Gibson and Singer 1970). A curious motif at all three sites is a bird that looks very much like a man in bird costume—possibly the California condor, mentioned by Boscana (Harrington 1934) as revered by the Juaneño. The paintings and associated artifacts suggest ceremonial activi-

ties possibly connected with deer hunting. There is only one example of a deer being pictured in the Chumash region. That painting is high in the Santa Monica Range at a site that also has the only known example of European horsemen painted by a Chumash. Excavations near several of these painted sites (Eberhart and Babcock 1963; Gibson and Singer 1970) indicate they were seasonal seed-gathering and hunting camps.

Prehistory

During the 1870s and 1880s, there was extensive looting of the Chumash cemeteries along the Santa Barbara Channel and very rich finds of artifacts were made, for sale mainly to private collectors. It was not until the 1920s that anything approaching systematic excavation was undertaken (Harrington 1928).

Rogers, who had been Harrington's assistant in his work at Burton Mound, made extensive excavations between Carpinteria and Gaviota, recognizing two earlier cultures, which he called the Oak Grove People and the Hunting People. The former were characterized by settlements on high ground away from the sea, prone burial, semisubterranean huts, large elliptical metates and oval manos, rectangular cooking stones, crude points, and fist axes. The Oak Grove culture in the channel area has been radiocarbon dated at over 5000 B.C. (Owen 1964).

Rogers's Hunting People were quite different. There was no trace of houses but they made many well-shaped projectile points, sandstone bowls, mortars, pestles, and baskets. The Hunting People buried their dead in a flexed position, head down. By A.D. 1000 the whole area was in the possession of the Chumash, who had supplanted, amalgamated with, or developed from the Hunting People. The complex culture of the Chumash, Rogers called Canalino (People of the Channel), a term that has proved confusing and is no longer used (Rogers 1929).

Olson (1930), Orr (1943), and others have done stratigraphic work in the Chumash cemeteries near Santa Barbara and many artifacts, including fragments of the planked canoes described by the explorers, have been recovered in such excavations. There is almost no archeological knowledge of the Ynezeño sites in the Santa Ynez Valley beyond that provided by casual pot hunting. Excavations at the coastal Ventureño sites have demonstrated that the climax area of the Chumash culture was centered near Santa Barbara with grave offerings less elaborate in ratio to distance from this center. Inland sites were small with artifacts reflecting a simple hunting-gathering economy.